mm high. Figures should fit column or page width and should be at most 8 in. long. If the author decides to bleed the page (no margins), labels and figure numbers should be no closer than 3/4 in. to the margin. Figures to be bled must be 7 × 10 1/4 in. (17.8 × 26 cm) to allow trimming. When several figures appear together as one plate, mount them on cardboard or paper as close together as possible. The engraver will tool thin white lines between figures. Give magnifications in the legends or indicate them with a scale marker on the photograph. The second copy of each manuscript must include good-quality glossy prints of all photographs. Two reviewers' copies should be submitted when originals are oversized or mounted on heavy cardboard. The author will defray the expense of color plates.

Tables should be typed on separate pages and numbered consecutively with Arabic numerals, and each should have a concise heading.

References to the literature should be cited as: Doe (1965) has observed that . . . ; (Doe, 1955); Doe *et al.* (1960) should be used in the case of articles with more than two authors. Use suffixes a, b, etc. following the date to distinguish two or more works by the same author(s) in the same year (Doe, 1960a, b). Numbered references will no longer be accepted. Arrange literature citations in the bibliography alphabetically according to the surname of the author, using the following order of items: author(s), date of publication, title of article or book, journal name, volume number, inclusive pages, publisher and city (for books only). Abbreviate titles of journals according to *Chemical Abstracts' Service Source Index*.

Page proofs rather than galleys will be sent. This speeds production. Detailed instructions will be sent with proofs. A quick response and minimal changes on proof are imperative to maintain schedules.

Features will include announcements of meetings and courses in the field of developmental biology, and some meeting reports. Persons interested in preparing meeting reports are encouraged to contact the Editor.

To submit a manuscript, send two copies to Igor B. Dawid, Department of Embryology, Carnegie Institution of Washington, 115 West University Parkway, Baltimore, Maryland 21210, Tel. (301) 235-0460. Indicate the name, address, and telephone number of the author who should be contacted in editorial matters.

Information for Authors

Developmental Biology will publish papers on problems of development in the broadest ense. Embryonic and postembryonic development, growth, regeneration and tissue re- air in plants and animals, and the analysis of these phenomena at the molecular and ellular levels are topics suitable for the journal. Papers on reproductive biology, aging, nd teratology will be published only when they bear on developmental mechanisms of eneral interest. Papers are sought that employ the techniques and concepts of many isciplines including those of biochemistry, biophysics, cytology, experimental morpho- enesis, genetics including cell genetics, immunology, neurobiology, physiology, and nicrobiology. In all areas, analytical rather than descriptive studies will be favored.

Original papers only will be considered. Submission of a manuscript implies the uthors' assurance that the same work has not been and will not be published nor is pres- ntly submitted elsewhere, and that all persons listed as authors have given their approval or the submission of the paper; further, that any person cited as a source of personal com- nunications has approved such citation. Explicit proof of these implied assurances may e required at the Editor's discretion. Articles and any other material published in *De- elopmental Biology* represent the opinions of the author(s), and should not be construed o reflect the opinions of the editor(s), the publisher, or the Society for Developmental iology.

Articles usually do not exceed 15,000 words and must be preceded by an abstract of bout 200 words that should be fully intelligible by itself. Brief notes are 2500 words r less, including the bibliography, and should have an abstract of less than 100 words. All apers will be published in English.

Manuscripts should be concise. Full documentation of results in support of conclusions hould be combined with maximum brevity compatible with clarity. The discussion sec- ion should relate the present work to previous knowledge but should not be expanded nto a review of the field. The standard order of sections is: abstract, introduction, mater- als and methods, results and discussion. Combined results and discussion may be used. In he manuscript acknowledgment, references, footnotes, tables, and figure legends should ollow the discussion in that order. All pages of the manuscript should be numbered con- ecutively and typed double-spaced throughout. Authors should provide a running title of 35 letters and spaces or less. Use footnotes sparingly. Cite them with superscript numbers nd type them on a separate sheet. With rare exceptions do not italicize for emphasis.

Abbreviations and units should be used consistently. Consult the lists published in the *Proceedings of the National Academy of Sciences (U.S.A.)* the *Journal of Biological Chemistry*, and *Biochemistry* for standard abbreviations which need not be defined. Col- ect all abbreviations into a footnote and refer to it at the first use of an abbreviation. The se of units should follow the Système International. Use prefixes, e.g., μM, not 10^{-6} *M*. Note that *M* stands for molar, not mole. Use hr, min, sec, rpm, and cpm without defini- ion, without a period, and without an "s" in the plural (i.e., 20 min).

Figures should be numbered consecutively in the order of their appearance and each hould have a descriptive legend. Mark all figures with the author's name.

Line drawings should be made with India ink on smooth white paper or professional- uality drafting paper. Do not submit original line drawings larger in size than 13 x 10 in.; nstead enclose smaller prints. Good quality prints are acceptable in any case. Drawings vill be reduced as much as is compatible with the complexity of the figure, usually to olumn or page width. The lettering should be large enough to be at least 1.5 mm high fter reduction.

Photographs should be the actual size for reproduction and labeled with letters 2 to 4

Full Papers

Presley Martin, Andrea Martin, and Allan Shearn. Studies of *1(3)c43*^{hs1}, a Polyphasic, Temperature-Sensitive Mutant of *Drosophila melanogaster* with a Variety of Imaginal Disc Defects 213

Pei-Lee Ho, Daniel Levitt, and Albert Dorfman. A Radioimmune Study of the Effect of Bromodeoxyuridine on the Synthesis of Proteoglycan by Differentiating Limb Bud Cultures 233

Charles B. Kimmel, Eric Schabtach, and Reida J. Kimmel. Developmental Interactions in the Growth and Branching of the Lateral Dendrite of Mauthner's Cell (*Ambystoma mexicanum*) 244

Michael G. O'Rand. Restriction of a Sperm Surface Antigen's Mobility during Capacitation 260

M. L. Hooper and C. Slack. Metabolic Co-operation in HGPRT$^+$ and HGPRT$^-$ Embryonal Carcinoma Cells 271

Klaus Kalthoff, Peter Hanel, and Dieter Zissler. A Morphogenetic Determinant in the Anterior Pole of an Insect Egg (*Smittia* spec., Chironomidae, Diptera). Localization by Combined Centrifugation and UV Irradiation ... 285

Ellen Kahn Bayne and Sidney B. Simpson, Jr. Detection of Myosin in Perfusion G_0 Lizard Myoblasts *in Vitro* 306

JoAnn Cameron and John F. Fallon. Evidence for Polarizing Zone in the Limb Buds of *Xenopus laevis* 320

JoAnn Cameron and John F. Fallon. The Absence of Cell Death during Development of Free Digits in Amphibians 331

David Francis. Synthesis of Developmental Proteins in Morphogenetic Mutants of *Polysphondylium pallidum* 338

Michael G. O'Rand and Lynn J. Romrell. Appearance of Cell Surface Auto- and Isoantigens during Spermatogenesis in the Rabbit 346

Michael J. Dewey, John D. Gearhart, and Beatrice Mintz. Cell Surface Antigens of Totipotent Mouse Teratocarcinoma Cells Grown *in Vivo:* Their Relation to Embryo, Adult, and Tumor Antigens 358

Toru Higashinakagawa, Harvey Wahn, and Ronald H. Reeder. Isolation of Ribosomal Gene Chromatin 374

Brief Notes

Young Kim, Max Hamburgh, Howard Frankfort, and William Etkin. Reduction in the Latent Period of the Response to Thyroxin by Tadpole Tail Discs Fused to Discs Pretreated with Thyroxin 386

D. F. Went. Pulsating Oocytes and Rotating Follicles in an Insect Ovary .. 391

Thomas C. Mayer, Cynthia K. Miller, and Margaret C. Green. Site of Action of the Crinkled (*cr*) Locus in the Mouse 396

T. Kagawa, E. Chikata, and J. Tani. *In Vitro* Myogenesis of the Monucleate Cells Derived from Regenerating Muscles of Adult Mice 401

Author Index for Volume 55 407

Features f–1

The Subject Index for Volume 55 will appear in the December 1977 issue as part of a cumulative index for the year 1977.

Contents of Volume 55

Number 1, January 1977

Full Papers

Raymond M. Borland, John D. Biggers, and Claude P. Lechene. Studies on the Composition and Formation of Mouse Blastocoele Fluid Using Electron Probe Microanalysis 1

C. A. Heckman, S. J. Friedman, P. J. Skehan, and R. J. Barrnett. Localization and Partial Characterization of Acyltransferases Present during Rapid Membrane Formation in the *Drosophila melanogaster* Embryo 9

Moshe Wolk and Hefzibah Eyal-Giladi. The Dynamics of Antigenic Changes in the Epiblast and Hypoblast of the Chick during the Processes of Hypoblast, Primitive Streak and Head Process Formation, as Revealed by Immunofluorescence 33

A. Fischer. Autonomy for a Specific Gene Product in Oocytes: Experimental Evidence in the Polychaetous Annelid, *Platynereis dumerilii* 46

Monique Barat, Catherine Dufresne, Hubert Pinon, Monique Tourte, and Jean-Claude Mounolou. Mitochondrial DNA Synthesis in Large and Mature Oocytes of *Xenopus laevis* 59

Eric H. Davidson, William H. Klein, and Roy J. Britten. Sequence Organization in Animal DNA and a Speculation on hnRNA as a Coordinate Regulatory Transcript 69

Joseph Lonski. Evidence for a Second Chemotactic System in the Cellular Slime Mold, *Polysphondylium* 85

Howard Kutchal, Susan L. King, Marsha Martin, and Ellen D. Daves. Glucose Uptake by Chicken Embryo Hearts at Various States of Development 92

Jane Overton. Formation of Junctions and Cell Sorting in Aggregates of Chick and Mouse Cells 103

Andrzej Vorbrodt, Marian Konwinski, Davor Solter, and Hilary Koprowski. Ultrastructural Cytochemistry of Membrane-Bound Phosphatases in Preimplantation Mouse Embryos 117

Robert E. Rogers and Leon W. Browder. Morphological Observations on Cultured Lampbrush-Stage *Rana pipiens* Oocytes 135

Robert E. Rogers and Leon W. Browder. Characterization of RNA Synthesis in Cultured Lampbrush-Stage *Rana pipiens* Oocytes 148

Leslie P. Kozak. The Transition from Embryonic to Adult Isozyme Expression in Reaggregating Cell Cultures of Mouse Brain 160

Elizabeth E. Brown and Gerold Schubiger. Centrifugation of Developing Oocytes Leading to Embryonic Defects 170

Richard E. Gelinas and Fotis C. Kafatos. The Control of Chorion Protein Synthesis in Silkmoths: mRNA Production Parallels Protein synthesis 179

Brief Notes

T. Bibring and J. Baxandall. Tubulin Synthesis in Sea Urchin Embryos: Almost All Tubulin of the First Cleavage Mitotic Apparatus Derives from the Unfertilized Egg 191

J. R. Whittaker, Giuseppina Ortolani, and Nunzia Farinella-Ferruzza. Autonomy of Actylcholinesterase Differentiation in Muscle Lineage Cells of Ascidian Embryos 196

Antonio Sastre, D. Bruce Gray, and Mary-Ann Lane. Muscarinic Cholinergic Binding Sites in the Developing Avian Heart 201

Ken-Ichi Ijiri. Existence of Ultraviolet-Labile Germ Cell Determinant in Unfertilized Eggs of *Xenopus laevis* and Its Sensitivity 206

Features f-1

Copyright © 1977 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

Developmental Biology

An International Journal
Published under the Auspices of the
Society for Developmental Biology

EDITOR-IN-CHIEF: Igor B. Dawid

ASSOCIATE EDITORS

Peter J. Bryant
David Epel
Gerald D. Fischbach
Norton Bernard Gilula
Elizabeth D. Hay
L. Dennis Smith
William F. Loomis, Jr.
James Weston

EDITORIAL ASSISTANT: Barbara Murray

ADVISORY EDITOR
Elizabeth D. Hay

VOLUME 55, 1977

ACADEMIC PRESS
New York and London